DOCUMENT RESUME

ED 066 906 EM 010 244

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TITLE	Visual Literacy and Teaching Migrant Youth.
SPONS AGENCY	State Univ. of New York, Genesco. Center for Migrant Studies.
PUB DATE	72
NOTE	40p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Communication Skills; *Migrant Child Education; Migrant Children; *Photography; *Remedial Instruction; *Visual Literacy

ABSTRACT

Elementary school children of migrant farm workers were provided with cameras, film and guidance in their usage during a six-week program to find out if encouraging visual literacy would increase traditional language skills. Children in such experimental groups had better language facility and increased their reading ability more than children in control classroom with traditional book-centered reading programs. (Appendices include the following articles: An analysis of Visual Experience; Visual Literacy - A Review of Cognitive and Affective Learning Elements; Nine Visual Literacy Propositions and Some Related Research; and A Hierarchy of Visual Skills). (RH)

ED 066906

EM 010 944

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VISUAL LITERACY AND TEACHING MIGRANT YOUTH

A Study Project Report

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ACKNOWLEDGEMENTS

The study detailed in this report was supported under a grant from the New York State Center for Migrant Study. The writer received the grant while serving as the District English Coordinator (K-12) for the Sodus, New York, School System. The study was conducted during the summer of 1969 with the additional assistance of the Sodus School System administration and teaching staff and the Educational Department of the Eastman Kodak Company.

Specific words of thanks must be expressed to several people who provided encouragement and support during the planning and implementation of the study: to Dr. Gloria Matteri, Director of the New York State Center for Migrant Studies, who was a valuable resource with her experience in migrant education; to Professor James Heitzman of the State University College of Arts and Science at Geneseo, who added research dimension to the study findings and assisted in the teacher training phase of the project; to both Dr. William Sterling and Mr. Arland White of the Sodus School System administrative staff who were involved in planning the day by day operation of the study project; and finally a special word of appreciation must be expressed to Miss Joan Tingue, who served as Assistant to the Project Director. Miss Tingue provided experienced guidance for both teachers and students and a delightful "visual literacy" all her own.

INTRODUCTION

Visual Literacy

Can a migrant child using a camera as a new type of pencil learn to write in a new vocabulary with precision and joy, handling his native language for the first time with success as he attempt to share important elements of his world with peers and adults? Will student experiences in visual literacy help a pupil to maintain a better grasp on his bewildering environment, improve the frequency and quality of the written and spoken utterances made about his private world, plus extending the interface with his teachers, classmates, and school? Can experiences in visual literacy assist youngsters to make the important transfer from visual "reading" and "writing" to the more traditional verbal language skills?

A serious attempt was made to find answers to these questions during an intensive summer research-demonstration project at the Sodus (New York) School System, near Rochester, from June to late August 1969. The six-week visual literacy project for migrant youth was directed by the writer, and was funded under a grant from the New York State Center for Migrant Studies at the State University College of Arts and Science at Geneseo. Eastman Kodak Company provided generous assistance through an equipment and services grant, in cooperation with NAPM. The study served to focus research attention on a largely Negro migrant population of first, second, and third graders whose parents were working in the fruit belt of western New York during the summer harvest period. Many school districts throughout the East and Southwest serve migrant populations during the regular academic year and during the peak summer months for migrant labor, but the New York State Center for Migrant Studies viewed the Sodus School System Summer School for Migrant Youth as a typical, and therefore, useful demonstration center.

Much has been written since 1960 about the education of the disadvantaged child, but a closer examination of the migrant may be useful here. Recently, while testifying on the Senate Subcommittee on Migratory Labor in Washington, Robert Coles, M.D., a research psychiatrist at Harvard Medical School, and author of the highly praised Children of Crisis, termed the migrant worker "a stateless people-stateless among our states, and stateless in the European sense of belonging to no one, of falling under no one's protection, of being wanted by no one." But Dr. Coles was particularly concerned with the tragic plight of the migrant child, who suffers from malnutrition, often goes hungry, and lives an incredibly uprooted life. Dr. Coles observed that the constant change of environments, the lack of sense of community, and the disorder resulting from constant mobility, forces the migrant child to become dazed, listless, and numb to anything but immediate survival. For these reasons and because of the migrant youngster's restricted opportunities for language development, the experience of visual literacy training offers teachers of migrant youth (and any disadvantaged population) a genuine opportunity to climb inside the silent youngster's mind and heart, to help him see that he can be "real" and that he can

say things to others that will have significance and power. Recent research has indicated that education in basic communication is essential if a child is to recognize his environment and emerge from poverty.

The camera forces the child to concentrate on something - if only for a few seconds - in an effort to really see it. That discipline and the undeniable lure of the camera for kids "hooks 'em" and then you begin. The camera permits the child, perhaps for the first time, to say something to someone else using a tool of technology - a tool that provides him with a unique fusion with the present and with the often bewildering age of technology. This remarkable camera helps the child to "say" things that he might not be able to say in any other way. The camera as the essential tool in visual literacy training really becomes the instrument for communication, where items in the process world-achair, a child, a grimace-can be purposely arranged and ordered to convey both a kind of deep structure-an underlying idea-from which the student visual communicator develops a surface structure-a photograph-which communicates. And, that's language!

One of the most exciting new educational stategies currently under review in professional journals, at conferences, and in the classrooms of academia by professionals in educational technology, semantics, linguistics, perceptual research, and learning theory, is "visual literacy," a term with fantastic charisma and far too many parameters.

Participants at last spring's First National Conference on Visual Literacy in Rochester, New York, asked some vital questions of the speaker-participants, questions that are finding answers in the form of viable demonstrations and sound research. Many ask: Are visuals really "a language"? Is a visual literacy really necessary in a print-oriented culture? Do we really have a rich background of passive visual experiences that can form the basis of visual writing experiences with a camera? Is there a grammar and a syntax for visual language, and if so, is there a useful parallel between visual and verbal language that would be helpful to explore in the teaching of English and reading? Can a visual communicator "translate" from visual to verbal language and then back again? Is such an exercise useful? Can experiences in visual literacy training help students to "see feelingly" and in so doing, get a better hold on themselves as part of an emerging, booming, buzzing global village called now?

Together with other "presenters" at the Conference, I feel that the questions noted above deserve a resoundingly affirmative response, but we also agree that we need more time and study to prove our feelings. After a highly "visual" summer with over 100 migrant youths, I feel more certain than ever that visual literacy training is not only the most sensible approach to total media-linguistic literacy for disadvantaged populations, but that it may also be the most humane way to help youngsters discover for themselves the

joys and values of successful communication. The camera offers the child new avenues to understanding self and others. The camera, like its user, is terribly present tense, and in a media-oriented society where kids are more "turned-on" by commercials than classrooms, our "competition" is great. Education isn't even in prime time, but visual literacy may help us grapb the kid in Roxbury, Scarsdale, and Sodus.

The concept of visual literacy has provided educators and linguists with new opportunities to explore a total language model that encompasses both visual and verbal language experiences. These experiences may lead to a visual literacy or competence in the skills of seeing and intentionally communicating to others information using visual methodologies and techniques.

In visual literacy we begin from a body of questions rather than from a body of knowledge. We may search in vain for a body of knowledge, a content (explicit knowledge in systematic order), and in so doing miss an important way of "knowing" and understanding a new level of conceptual awareness which we may term "visual languaging." Teachers of visual literacy assume, perhaps incorrectly, that because the learner has had broad experience with visual media--television, motion picture art, painting, books, etc.--he can, therefore, express some frames of reference that should emerge from visual language study. Frankly, we may not know enough at this point about the acquisition of "visual language skills" to assume that we can make such liberal assumptions of the learner's abilities and experiences.

The broad hope of visual literacy in English education is that it will provide opportunities for students to relate experiences using both visual and verbal language models. Both are then seen as acceptable and appropriate tools to translate and interpret experience.

VISUAL LITERACY allows persons to develop skills in vision (vision-competencies) and to involve these skills with other sensory experiences to more effectively explore the power of self through language to bring order to the complexity of human experience. Visual literacy has perceptual, communicative and humanistic goals in its attempt to frame communication in the broad context of total "languaging." In this way both visual and verbal language is seen as inner discourse finally realized as dialogue with others.

VISUAL LITERACY in its "raid on the inarticulate" has provided valuable insights into the language power of the child. The child's ability to control the grammatical core, phonemic system and basic contentive vocabulary of verbal language has challenged linguists to examine parallel awarenesses in the child's acquisition of visual skills. Both the visual and verbal communicator realize the wisdom of T. S. Eliot when he wrote in "East Coker":

".....having has twenty years.....
Trying to use words, and every attempt
Is a wholly new start, and a different kind of failure
Because one has only learnt to get the better of words
For the thing one no longer has to say, or the way in
which One is no longer disposed to say it. And
so each venture
Is a new beginning, a raid on the inarticulate....."

Research Overview

A. Statement of the Problem

Will migrant primary school pupils instructed using a photo-visual training materials strategy demonstrate differences from pupils instructed in the absence of such a strategy based on an observation of language development criterion?

B. Procedures

Subjects: Subjects will be 100 migrant primary school pupils enrolled in the 6-week Lotus Central School summer program. Pupils will be randomly assigned to treatment (N-50), and to non-treatment classes (N-50).

Methodology:

During the 6-week period the subjects will take a number of still photographs of themselves and their environment using simple Instamatic cameras. After the picture-taking experiences, teachers will assist students in ordering their pictures for an effective communication event, and to communicate "stories" using their student-made pictures. Tape-recordings of student talk during these discussion-lessons will be studied for oral language growth.

Teacher Orientation:

Teachers will be randomly assigned to treatment or non-treatment groups. Specific orientation will be conducted to acquaint teachers with program goals, and to train them to effectively utilize visual training materials.

C. Evaluation

Criterion measures will consist of standardized tests, selected subtests, and specially-devised instruments.

C. Evaluation (Cont.)

Appropriate statistical procedures were utilized. An T2 test of main effects was conducted. An alpha of .05 was set at the outset of the experiment to determine probability levels. All statistical tests conducted were observed as two-tailed tests since the research did not hypothesize direction.

Teacher Selection Procedures

As stated in the Research Overview teachers were selected from the Sodus School system professional staff for both the control and experimental group. Administrative recommendations were considered in terms of identifying staff who had demonstrated an interest in broadening their language program to include visual literacy techniques. Cooperating experiemental classroom teachers were: Mrs. Karen Capacci, 1st grade, Mrs. Lynn Rodda, 2nd grade, Miss Cathy Demerick, 3rd grade, and Mr. John Burns, 4th grade. Control group teachers were Mrs. Margaret Bigelow and Miss Karen Matusik, 1st grade; Miss Joy Crayton, 2nd grade; Mrs. Mabel Southwick and Mr. Harold Swigart, 3rd grade; and Mr. Michael Bastian and Mrs. Mabel Granger, 4th grade.

Two training sessions were held with both the experimental and control group classroom teachers who would be randomly assigned prior to the project. The sixteen classroom teachers and paraprofessionals provided in the Visual Literacy study all had an opportunity to view the Kodak Educational Aids for visual literacy training including A Visual Fable, How Does a Picture Mean, and Making Sense Visually. In addition to these film-strip training items teachers worked with the Photo-Story Sets and the Visual Category Set as part of their training. The basic objective for the teachers in the project can be simply stated: to learn to understand and develop skills in visual communication that will permit the teacher to make significant parallels between visual literacy experiences and traditional language experiences in the classroom.

The training sessions centered on the key issues of visual literacy and reading instruction, and on the use of still pictures as a stimulus to oral language development. The teachers agreed that when youngsters take pictures they often unconsciously reveal inner concerns about themselves and their probing awareness of their environment. Sometimes picture-taking experiences by youngsters are a method of providing legitimate tools to translate and interpret experience. This philosophy of instruction and broad view of language experiencing was essential during the teacher training phase of the project.

Method and Classroom Procedures

The basic question posed at the outset of the study was: Will primary school migrant school pupils instructed using photo-visual training materials demonstrate differences from pupils instructed in the absence of such a strategy based on an observation of language development criteria?

One hundred Negro migrant pupils in grades one, two, and three were randomly assigned to the experimental (N-50) and control (N-50) classes. After specific orientation sessions with teachers, staff members (teachers and aides) were also randomly assigned to treatment and nontreatment classes.

A number of specific visual skills were identified as being useful for inclusion in a "hierarchy of visual skills" used in the project program. It was felt that pupils in elementary school grades should be able to move through the steps of the visual skills hierarchy with ease during the six-week program. The project staff was somewhat surprised at the number of migrant youngsters who experienced difficulty the first week identifying basic colors, shapes, forms, and visual cues as presented in the Kodak Visual Categories Discovery Set, one of the educational aids used as training materials by the teachers in the experimental groups.

In the first visual literacy experience, each child in the experimental classes was tested with the Visual Categories Discovery Set which allowed the youngster to select 10 favorite pictures from 50 3 x 3 color pictures in the sorting set. The teacher recorded pupil responses on a data collection sheet (provided with the set), and used the pictures for discussions. Each picture inventory was administered individually and took approximately 20 minutes with each child. The set was a fascinating assessment of the cognitive and affective appeal of single still pictures, and provided valuable teacher-pupil discourse about visuals early in the project.

The children moved rapdly through the skills in the hierarchy of visual skills, from recognizing differences in brightness and differences in shape, size, hues, and height-depth, to more "communication-oriented skills." The most valuable training aid used by the teachers was the Photo-Story Discovery Sets. There were four sets used with our pupils: two in black and white, two in color. The Photo-Story Sets offer the child a delightful opportunity to order a varying number of 3 x 3 still pictures into cogent visual sequences that tell stories. Although directions accompanying the set are explicit, some teachers still insist that the student stories must have a "rightness" or a "wrongness" to them. Many other teachers find the fact that the child may not wish to discuss the set of pictures he has ordered with the teacher quite disturbing. In truth, the child has "spoken" through the arrangement of pictures he has made. The omission of certain pictures may offer a revealing insight into the experiential background of the student ordering the pictures. For example, one of the sets "told" the story of a boy hitting a baseball through a window. The set offered the child a

choice of three views of a policeman who is on the scene. One picture shows the policeman listening to the ball hitting the window, the other presents the policeman as counselor, perhaps prior to the broken window incident, and the third picture presents the policeman scolding the boys, perhaps after the broken window incident.

Significantly, in over 85 percent of the cases of migrant youths ordering that photo-set, all three of the pictures of the policeman were eliminated. There seemed little doubt to the teachers that the image of the policeman was one that was best eliminated in the visual tracing of the child. The visual surrogate for the reality the child knew all too well had to be eliminated from "his" story. Our staff found all four of the Photo-Story Discovery Sets to be extremely useful in the first four weeks of the project, for each set increased in difficulty from a simple picture story sequence to a highly metaphoric visual order that is difficult for many primary school age children to handle.

Visual/Verbal Notebooks

It is not my purpose to denigrate the use of words in visual literacy training, but words are, in fact, a short cut to what most of us believe to be experience. We know that increased verbalization is necessary to the emerging personality so that ideas may be given the form in which they are usually accepted by the mechanism of the mind. But should we not also consider the form of our sensory impressions? Often our practice of excessive verbalization floods the life of the senses and interferes abruptly with visual perception and creative play.

Let's use words in the context of visual literacy to lead children toward visual experiences. But let us not force them on the child when he has entered the domain of visual experience.

One of the most successful balances between pictures and oral and written language about pictures is the visual/verbal notebook. We had the students create them during the project period, and their visual/verbal notebooks became their reading books. The migrant pupils enjoyed these "experience" notebooks, for they were constantly changing up-to-date records - visual and verbal - of school and home experiences selected by the child for inclusion in his reading book, The notebooks were often dictated by the younger children who experienced tremendous pleasure at having "written" in so painless a fashion.

The student-produced visual/verbal notebook became the basis of the experimental class reading program, and teachers and students alike reflected enthusiasm for the project.

Kids and Cameras

A. Experiments in Visual Literacy

At the beginning of the summer program each child received his own Instamatic 44 Camera. It was essential to the program that the student find his camera as convenient and as easy to use as a pencil to insure its constant and effortless use. The children kept the cameras with them at all times in school, and during three all-day field trip experiences away from summer school. The children were also permitted to take the cameras home for several weeks, after a letter had been sent home explaining the purposes of the project and that the camera must be returned to school. The staff was pleased (and surprised) to see that not one camera was lost or stolen during the program.

It was also essential to the goals of the program that each pupil have all the "lead" or film needed for the visual writing experiences, so ample film was available in the classroom media centers. Over 5,000 still pictures were taken by the 100 pupils over the summer. For the purposes of economy 85 percent of the pictures taken were in black and white; the balance were in color. Since experience with color film is far more successful in "telling it like it is," we saved the color experience for the final two sequences at the end of the summer, and we were wise to save the "best 'till last."

Most of the pupils in the experimental classes had neither taken a picture nor held a camera. The excitement implicit in any visual literacy project is difficult to describe to anyone who hasn't seen the wonder on the faces of youngsters when they see their newly-processed pictures. The migrant pupils in the experimental classes became so excited that many of them spent time after school discussing their pictures with teachers and the project staff. Such interest in school is highly unusual for such pupils. The quality and frequency of their oral language responses were among the most important results of the project. Even the most silent, recalcitrant pupil will jabber about pictures, but he'll really "go on and on" about his own pictures. . . for they are the most meaningful pictures he can show you.

Students were challenged to work on six exercises during the summer following the first week of orientation, trial experiences with the new cameras at an all-school picnic, and work with the Kodak Visual Categories Discovery Set discussed earlier.

A. Experiments in Visual Literacy (Cont.)

Pupils were asked to "read" a sequence of body language events ordered chronologically and then to compose a photographic series of from five to ten pictures of the sequence.

Pupils were then asked to "read" a sequence of objects arranged in thematic order in the classroom, and then to compose a photographic utterance of from five to twelve pictures on that order or any order they wished.

Pupils were then asked to select objects that moved and to make a series of pictures about "movement" and "visual cues." This exercise was especially important because of the problems experienced by many pupils with the visual cues section of the Visual Categories Discovery Set.

The final and most difficult exercise for the youngsters was to plan and photograph a photo-story of their own after working with the Photo-Story Discovery Sets. The first and second grade pupils experienced considerable difficulty with the idea of sequence, but this is not too unusual when one considers that the migrant child has little sequence in his own environment beyond the rotation of the crops. Sequence is a difficult skill in the teaching of reading in verbal language, also, but test results indicated that the idea of sequence was taught very successfully using photo-story sets in the experimental classes.

The culmination of the third grade experience in photo stories was the assigment of a fictional narrative. This was a 10 to 20 picture set created and planned by the pupil.

It may be useful to make an additional comment on the operation of the project program. It was possible to work individually with each child in the project classes because of the unusually small classes (the average was 15), and the excellent supportive services of the project staff and the trained paraprofessionals. The same goals and training program sequence could have been accomplished during the regular academic year with larger classes in from eight to ten weeks of class work with a single teacher.

The matter of feedback also deserves attention. In such a visual literacy project photographs must be processed rapidly to insure quick feedback and high interest. We were able to arrange for 24-hour processing service through a local photo-finisher; many firms can rush bulk orders if suitable arrangements are made.

Program Evaluation

Three major instruments were used in the project evaluation program: pre- and post-testing using the Wide Range Achievement Test; the Lowenfeld Test of Visual and Haptical Attitudes, and the Dailey Language Facility Test as a post-test.

Little if any traditional reading materials (books, reading kits, primers) were used in the experimental class reading program; the visual/verbal notebooks were the "reading books" and the visual literacy training strategies supplanted traditional reading instruction in all experiemental classes. The traditional book-centered reading program was the order of the day in all of the control classes. In the first and second grade a significantly larger percentage of 10 pupils in the experimental classes achieved growths of from five to nine months in the six-week period in reading ability as reflected in the difference between pre- and post-WRAT results, as opposed to the traditionally instructed control groups of comparable ability.

The most startling growth in reading ability occurred in the third grade where 8 out of a class of 13 pupils made leaps of from five to nine months in reading level in the experimental classes, where in the comparably grouped control class only 2 pupils out of 14 demonstrated similar growth. The project staff felt certain that a number of significant implications for the teaching of reading and visual literacy may emerge after detailed pupil comparisons are completed.

Another instrument administered to all project pupils was the Lowenfeld Test of Visual and Haptical Attitudes. The staff was anxious to see if there were parallels between the visual or haptical attitudes and success in written or oral language. The test was developed in 1945 by art educator Viktor Lowenfeld while he worked with Adelbert Ames at the Hampton Institute for Eye Research. Lowenfeld felt that youngsters were either primarily visual in their orientation to the world of experience, as opposed to haptic in their orientation, or primarily oriented through the means of touch, bodily feelings, muscular sensations, and kinesthetic fusions. The visual child "sees" with more clarity; the haptic child may be inhibited visually, with attendent problems in reading activities.

In the administration of the Lowenfeld test one must have a skilled team of examiners and time - for each administration takes 30 minutes per pupil. The Lowenfeld Test includes five sections: A Testof Successive-Impressions, to prove whether or not a person can integrate partial impressions, perceived successively, into a whole; A Test of Subjective Impressions, A drawing test; A Word Association Test; and a Visualization of Kinesthetic Experience and Test of Tactile Impressions Test to discern whether a pupil can visualize kinesthetic experience (i.e., a series of six cardboard geometric shapes).

Richard Erickson of Purdue University has explored several of the parallels between visual and haptic attitudes and success in mechanical drawing, but the evidence of this summer's project with migrant youth is that the youth were overwhelmingly visual in their orientation to their environment - 46 out of 56 tested were rated "visual," while only 9 pupils were rated "haptic," and two rated indefinite.

The Lowenfeld Test may be a helpful device for teachers of visual literacy in spotting youngsters with visual handicaps, or perceptual-motor difficulties. It needs to be standardized if norms are to be established and if reasonable assumptions are to be made about haptic attitudes and visual literacy training.

The Dailey Language Facility Test (The Allington Corporation, Alexandria, Virginia, 1968) was used as the project post-test. The Dailey Test is designed to measure language facility at all ages from preschool through maturity. The test gives a measure of how well a pupil can use the language or dialect to which he has been exposed in either his home environment or school. The test obtains a standardized sample of speech by means of having the subject tell stories about a series of pictures of migrant youth at play and at school. Responses to each picture are assigned scores on a 9-point scale according to detailed scoring criteria and examples at each level.

The oral language responses of the 100 migrant pupils tested indicate that a majority of migrant youth in the control groups were well below the median performance expected, while the pupils in the experimental classes scored slightly above the norm. It is expected that a detailed analysis will reveal significant differences in language facility between migrants and residents in the regular pupil population.

An Alpha of .05 was set at the outset of the experiment to determine probability levels. All statistical tests were observed as two-tailed tests as the visual literacy research design did not hypothesize direction.

Visual Literacy - Bold Promise for Teaching the Disadvantaged

As professionals in instructional technology we must confront the realities of our profession as we work in visual literacy. Administrators are questioning equipment requests with one eye on the budget, the other on the taxpayer. Equipment manufacturers are already feeling the pinch, AV Directors are trying to shed the uncomfortable image of projector pushers, and serious questions are being asked about the new concerns for audio-visual materials for the teacher, when visual literacy training equips the pupil to learn more effectively by making it possible for him to read and write visually, as well as verbally.

Studies have demonstrated that youngsters who are given the opportunity to become visually literate sharpen self-concepts, deepen their environmental awareness, and discover new parallels in verbal language - in its phonology, morphology, and syntax. The child using the camera to tell others of his unique experience may discover that only through the reordering of visual elements - his finished picture - can he actually alter the surrogate for the reality of the event he has previously internalized. This alteration of the past has important semantic, and even psychological implications for all learners.

Our study attempted to demonstrate how visual literacy training might extend and enrich the language facility of migrant youth - the "children of crisis." We must see them in our society just as we must help them to see themselves in this postexistential technological environment if we, as media professionals, as teachers, as men, are to telp them to seek a newer world. Visual literacy as a strategy, as a platform for a new total media-literacy, offers a bold promise to education. A bold promise, indeed.

APPENDIX

A. Roger B. Fransecky....."An Analysis of Visual Experience"

B. Roger B. Fransecky....."Visual Literacy - A Review of Cognitive and Affective Learning Elements"

C. Clarence M. Williams...."Nine Visual Literacy Propositions and Some Related Research"

D. ~~Victor Lowenfeld.....~~"Tests for Visual and Haptical Aptitudes"
Deleted due to irreproducibility

E. John L. Debes....."A Hierarchy of Visual Skills"

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APPENDIX A

AN ANALYSIS OF THE VISUAL EXPERIENCE

Four Major elements:
1) Engagement-Involvement
2) Perception
3) Interpretation
4) Evaluation

I. ENGAGEMENT-INVOLVEMENT ELEMENTS:

A. Student may react to the visual experience in a number of ways:

he may examine form and sequence--the effect of the total visual structure: the viewer "reader" seeks a personal, or occasionally an impersonal analogue for a character in the picture (s).
he may re-order picture elements in new forms after internalizing elements.
he may react to visual content.
he may conjecture--a stimulus for imaginative expression.
he may find a strong "identification"with characters in visual stories..."felt I was there."

II. PERCEPTION "Visual reading comprehension"

Here we are talking about both objective and subjective perceptions...

Objective, including the reaction to the base phenomena: number of Pictures, colors, visual language elements format, etc.

Subjective, including affective elements present in pictures... how does he perceive the elements...
In this mode the tangency of perceptual and interpretive analysis occurs in the "reading" of the pictures.

TYPES OF PERCEPTION:

1) Perception of visual language elements:
body language, object language, symbols, message carries, syntactic structures--visual language patterns

(visual balance, periodicity, repetition, qualification)

2) Perception of semantic ambiguity and choice of elements (visual diction).

3) Perception of rhetorical devices (introductory elements, transitional-linking devices, and concluding visual elements)

4) Perception of larger literary devices--narration, dialogue, description, irony

5) Perception of content and "story line"

6) Perception of action--Here the "reader" of the sets may "quote", paraphrase and summarize action verbally, or visually in his own pictures...

7) Perception of setting or milieu

8) Perception of the whole--a synthetic perception which is complex and includes perception of relationships, structure (s), and tone-point of view.

THE TOTAL VISUAL STRUCTURE ANALYZED:

1) relation of parts to parts (single visual elements to single visual elements)

2) relation of parts to the whole

3) Gestalt--describing or characterizing the whole work, often in terms of a metaphor from another medium... ("a concerto of visual elements")

4) allegorical structure

5) internal logic--consistency

III. INTERPRETATION

1) Use of part as key to the interpretation of the whole
2) Interpretation of: style, inferred metaphor, symbolic intent, logic...inferred setting (from visual clues), and inference about "author".

IV. EVALUATION:

1) affective evaluation--emotional appeals
2) formal evaluation--uses of criteria of aesthetic order
" " " " visual communication
elements for intentional visual communication.

"TOWARD A VISUAL LITERACY"

Cognitive Learning Elements

1.00 KNOWLEDGE

1.10 Recall of specific

--recognizes familiar elements in visual
1---------- statements (pictures)

1.11 Knowledge of symbolic referents

--discovers symbolic elements in pictures including
2----------object language and message carriers

1.21 Knowledge of conventions

--recognizes characteristic ways of treating ideas
3----------and phenomena visually in sets

--identify the way symbols may be used to represent
4----------"actual" objects in visual language

1.22 Knowledge of Trends and Sequences

--recognizes that pictures may be ordered in such a manner that they may be "read" in the same left-to-right fashion that verbal statements are read and written
5----------with subject, predicate or object elements.

2.00 COMPREHENSION (this area includes those objectives, behaviors, and responses which represent an understanding of the literal message contained in a communication. Here student may also change the communication to some parallel form more meaningful to him.)

2.10 Translation

--engages in more complex thinking about visual communication and its relationship to verbal
6----------language

--translates one photo-visual statement to another photo-visual statement

--translates photo-visual statements to verbal statements (either oral or written responses)
7----------IF HE WISHES.

2.20 Interpretation

--comprehends a series of visual statements with
8----------increasing depth and clarity

2.30 Extrapolation

--demonstrates ability to distinguish consequences
9----------of character action and interaction

--demonstrates skill in predicting outcomes of
10----------visual stories

3.00 APPLICATION

--demonstrates with a camera his ability to create pictures
11----------which isolate and interrelate subject-predicate-object elements;

--demonstrates his ability with a camera to create cogent picture sequences which communicate messages
12----------to a "reader"

4.00 ANALYSIS: 3 Levels of Analysis:

1. Student is expected to break down material into constituent parts and to identify and classify elements of the communications
2. Student is expected to make explicit the relationship among the elements to determine their connections and interactions
3. Student is expected to recognize certain organizational principles, the arrangement and structure, which hold together the communication as a whole.

--infers relationships, and subject-predicate-object
13----------elements in pictures

14---------- --recognizes visual point-of-view

15---------- --infers "author's" intent

5.00 SYNTHESIS (the ordering of elements to form a whole, to constitute a pattern or structure not clearly present before)

5.10 Production of a unique communication -- here we include objectives in which primary emphasis is upon communication, upon getting ideas, feelings and experiences across to others

--demonstrates the ability to organize ideas
16----------visually in a photo-story (ordered series)

--demonstrates the ability to write simple and more complex visual statements with a camera
17----------(with parrallels to verbal language)

6.00 EVALUATION

--demonstrates the ability to order successfully another Photo-Story Discovery Set in a manner
18----------which may be regarded as internally consistent

--demonstrates the ability to relate visual sentence order to verbal sentence order within
19----------syntactical visual-verbal exercise

AFFECTIVE LEARNING BEHAVIORS

1.0 RECEIVING (Attending)

--develop consciousness of color, form, arrangement and design in the objects and structures in pictures and in descriptive or symbolic representations of
20----------people, things, and attitudes

2.0 RESPONDING

2.1 Acquiescence in responding

--demonstrates willingness to complete picture
21----------sets

2.2 Willingness to respond

--voluntarily "reads" pictures and responds to them
22----------with interest

2.3 Satisfaction in response

--finds pleasure in ordering picture stories/
23----------sequences

--takes pleasure in sharing picture stories with
24----------others

3.0 VALUING

25——— --recognizes that the picture ordering exercise has value for a learner

26——— --actively participates in arranging pictures into clusters which intentionally communicate meaning (s)

4.0 ORGANIZATION — (As a learner successfully internalizes values, he encounters situations for which more than one value is relevant. The necessity arises for (a) the organization of the values into a system, (b) the determination of the interrelationships among them, and (c) the establishment of the dominant and pervasive ones.

4.1 Conceptualization of a value

27——— --relates his own ethical standards, prior experiences with visual elements, and personal goals/aspirations to the "reading" and ordering of pictures

28——— --forms judgments about character action (in pictures)

29——— --attempts to identify the characteristics of particularly evocative visual elements (perhaps single pictures or series)

5.0 CHARACTERIZATION BY A VALUE OR A VALUE COMPLEX -- (At this level of internalization the values already have a place in the individual's value hierarchy, and are organized into some kind of internally consistent system.)

30——— --demonstrates willingness to confront conclusions resulting from arbitrary picture order

31——— --demonstrates willingness to revise personal judgments in light of secondary thoughts or peer/adult direction

32——— --confident of ability to "succeed" in successfully ordering other Photo-Story Discovery Sets

33——— --confident in ability to produce his own sets with a camera

APPENDIX B

COGNITIVE LEARNING ELEMENTS -- PHOTO-STORY DISCOVERY SETS AND OTHER VISUAL LEARNING STRATEGIES

A. Knowledge

1. Recall of specific --- recognizes familiar elements in visual statements (pictures)

2. Knowledge of symbolic referents -- recognizes symbolic elements in pictures including object language and message carriers.

3. Knowledge of conventions -- recognizes characteristic ways of treating ideas and phenomena visually in sets; recognizes the way symbols may be used to represent "actual" objects in visual language

4. Knowledge of trends and sequences -- recognizes that pictures may be ordered in such a manner that they may be "read" in the same left-to-right fashion that verbal statements are read abd wrutteb

B. Comprehension (this area includes those objectives, behaviors, and responses which represent an understanding of the literal message contained in a communication. Here student may also change the communication to some parallel form more meaningful to him.)

1. Translation -- engages in more complex thinking about visual communication and its relationship to verbal language: translates photo-visual statements to verbal statements (either oral or written responses) -- IF HE WISHES

2. Interpretation -- comprehends a series of visual statements with increasing depth and clarity

3. Extrapolation -- demonstrates ability to distinguish consequences of character action and interaction; demonstrates skill in predicting outcomes of visual stories

C. Application

Demonstrates with a camera his ability to create pictures which isolate and interrelate subject-predicate-object elements; demonstrates his ability with a camera to create cogent picture sequences which communicate messages to a "reader"

D. Analysis - 3 Levels of Analysis:

1. Student is expected to break down material into constituent parts and to identify and classify elements of the communication

2. Student is expected to make explicit the relationship among the elements to determine their connections and interactions

3. Student is expected to recognize certain organizational principles, the arrangement and structure, which hold together the communication as a whole

Demonstrates the ability to discover cause-effect relationships, and subject-indicate-object-elements in pictures; demonstrates ability to recognize visual point-of-view; demonstrates ability to infer "author's" intent

E. Synthesis (the ordering of elements to form a whole, to constitute a pattern or structure not clearly present before)

Production of a unique communication -- here we include objectives in which primary emphasis is upon communication, upon getting ideas, feelings, and experiences across to others

Demonstrates the ability to organize ideas visually in a photo-story (ordered series); demonstrates the ability to share personal experiences with a camera; demonstrates the ability to write simple and more complex visual statements with a camera (with parallels to verbal language)

F. Evaluation

Demonstrates the ability to oder successfully another Photo-Story Discovery Set in a manner which may be regarded as internally consistent; demonstrates the ability to relate visual sentence order to verbal sentence order within syntactical visual-verbal exercise

AFFECTIVE LEARNING BEHAVIORS

A. Receiving (Attending)

Develop consciousness of color, form, arrantement, and design in the objects and structures in pictures and in descriptive or symbolic representations of people, things, and attitudes

B. Responding

1. Acquiescence in responding -- demonstrates willingness to complete picture sets

2. Willingness to respond -- voluntarily "reads' pictures and responds to them with interest

3. Satisfaction in response -- finds pleasure in ordering picture stories and sequences; takes pleasure in sharing picture stories with others

C. Valuing

Recognizes that the picture ordering exercise has value for a learner; actively participates in arranging pictures into clusters which intentionally communicate meaning(s)

D. Organization

As a learner successfully internalizes values, he encounters situations for which more than one value is relevant. The necessity arises for (a) the organization of the values into a system, (b) the determination of the interrelationships among them, and (c) the establishment of the dominant and pervasive ones.

1. Conceptualization of a value -- relates his own ethical standards, prior experiences with visual elements, and personal goals and aspirations to the "reading" and ordering of pictures; forms judgments about character action (in pictures); attempts to identify the characteristics of particularly evocative visual elements (perhaps single pictures or series)

E. Characterization by a Value or a Value Complex (At this level of internalization the values already have a place in the individual's value hierarchy, and are organized into some kind of internally consistent system.)

Demonstrates willingness to confront conclusions resulting from arbitrary picture order; demonstrates willingness to revise personal judgments in light of secondary thoughts or peer and adult direction; confident of ability to "succeed" in successfully ordering other Photo-Story Discovery Sets; confident in ability to produce his own sets with a camera

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NINE VISUAL LITERACY PROPOSITIONS AND SOME RELATED RESEARCH

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There exists an enormous body of research literature on perception, perceptual development, and methods for the study of perceptual problems. For purposes of identifying the possible overlap between a number of research and writing areas and visual literacy, a series of nine propositions was developed. For each proposition, a small and non-random selection from perception language development, semantics, learning, human development, and research methodology which relate to the concept, visual literacy, has been made.

Proposition 1: Deprivation of early visual experience can lead to visual problems in the later life of the organism. From a number of investigations (14,16) it would seem reasonable to assume that an impoverished environment can lead to delayed or inadequate development in spite of adequate hereditary potentialities. Inadequate development includes inadequate visual development. Therefore, it is possible to conclude, tentatively, that individuals without opportunity for early visual experience, no matter what the cause or context, will probably have visual problems in later life which cannot be totally remediated or compensated for.

Proposition 2: Visual enrichment in early life appears to make an organism more successful in visual tasks in later life. In general, for animals, early stimulation of several kinds, including visual, leads to better performance later. Exposure to specific stimuli at an early age can also effect later performance (7). With human subjects, researchers agree that early stimulation tends to show up in better performance in later learning (3,6).

Proposition 3: It is probable that a program of visual enrichment can improve learning if effectively implemented. In one study, it was found that training on directly related visual materials and training on indirectly related visual materials significantly improved learning on a science unit (15).

Vernon describes the effects of success and failure on perception:

> "Observers were asked to estimate how well they thought they would do a perceptual task. After the task, half of them were told that they had surpassed their estimates, and half were told that they had fallen short of them. Subsequently, a series of words was presented, four of which

> related to success (Excellent, Succeed, Perfection, Winner), four to failure (Unable, Failure, Obstacle, Defeat), and four to striving (Improve, Achieve, Strive, Complete). The 'Success' words were recognized relatively more quickly by the 'Success' group and the 'Failure' words by the 'Failure' group. There was no significant difference for the 'Striving' words. It was suggested that the observers who had succeeded or failed labelled the situation as one of success or failure, and formed appropriate hypotheses about the type of words shown them." (19)

A speculative general conclusion can be drawn from these and similar studies: It seems that subjects who were rewarded, or who had experienced success in a task, had some tendency to attend preferentially to the rewarded or successful situation or to related material such as pictures or words associated with reward or success, and to perceive them more readily. Thus, perhaps one of the most urgent tasks is to design learning experiences for the young in such a way that some kind of success will result -- at least in the perception of the learners.

Here are some relationships which might exist among the first three propositions: it is probable that deprivation can be operational any place along the continuum of development. We cannot assume that it occurs most often in the preschool years but must recognize that it occurs with regularity during discrimination training exercises -- in fact, during all of the initial reading and reading-related experiences as well as initial math, initial science, etc. If not observed and avoided or compensated for, deprivation can lead through failure to further deprivation by withdrawal from contact with the learning problem until a point is reached for the individual where he may never recover. If we accept the fact that deprivation can occur any place along the developmental continuum, then we might consider that enrichment also can be devised (if we are clever) and made operational at any point along the continuum.

John Fuller's research (4) on experiential deprivation and later behavior suggests another point. "Deprivation does not necessarily prevent normal development of intelligent behavior, but it appears to interfere with performance in vulnerable subjects." Also, he "suggests that major attention should be given to the circumstances of emergence from isolation (or a deprived state) and subsequent testing. Isolation may simply prevent organisms from becoming habituated to stimulus complexes, so that attending to pertinent components while disregarding others is made difficult. The stimulus overload would be particularly severe when the organism emerged from isolation" (4). While Fuller is talking about dogs, it is possible that there are those humans who are more vulnerable to stimulus deprivation and who will

need special attention in order to get them back into a more normal development. His speculations lead to the further suggestion that humans do, in fact, go into a kind of "isolation" during and after deprivation and that we must be aware of the stimulus overload when we try to "enrich" their environment.

Proposition 4: The ability to sequence visual stimuli is related to the experiences (history) and the opportunities provided for the learner. Marlene Glaus (8) has developed sets of sequencing exercises, for example, children in the primary grades are asked to order the words, "shoe, ship, sun, seed, snail, and sailor," according to the size of the object. Other exercise words are, "mouse, mountain, match, moon, moccasin, and mule." While she organizes her sets by the alphabet, it is easy to see that other aspects of objects might be used to create widely differentiated sets so as to take whatever advantage this kind of exercise might offer in learning, e.g., mountain, hill, anthill, and bump. Photographs or drawings of these objects as well as object and body English might be devised in order to use the exercise for younger learners or so that communication might be established with a nonverbal learner, i.e., nonverbal by choice, by genetic inheritance, or by reason of maturation.

Some other dimensions for sequencing either verbally or visually (or both) are: bright to dark, hot to cold, ambiguous to specific, abstract to concrete, high value to low value, active to passive, proximity to distance, left to right, down to up, higher to lower, diagonal to opposite diagonal, gross to fine, experienced to unexperienced, known to unknown, and of course, any order of things, i.e., A B C or 1 2 3, already in the learning process.

It might be interesting to develop some visuals where the sequence has to do with the amounts and kinds of captions which learners feel necessary and/or sufficient. This type of learning experience also has high diagnostic value for judging visual and verbal development relationships.

A general tentative conclusion of Strandberg and Griffith (18) is that training in sequencing does have an effect on the length and complexity of the language a child uses to describe his pictures. How do children begin to learn to attend to the appropriate detail in the visual reading scene? How do we sequence visual steps within complex pictures? What is the habituated pattern and how do we relate the study of sequencing phenomena to ways of helping human beings become more human?

Proposition 5: Development of the "Glance-Curve" is related to sequencing experiences and early reading-related experiences. A general problem in perception has to do with the differences noticed by observers in spatial and other properties of objects appearing at various positions in the visual field, particularly in the one lateral half versus the other. Differences in the

perception of the right and left [illegible] viewed scenes have been recognized for quite some time. [illegible] artists place their featured person or object on the left side of a scene. Research has indicated that there is a tendency for European artists to use the left half of the visual field to introduce movement into a picture, since there is more clarity and distinction here. On the other hand, the right half of the picture is said to leave more room for the play of the imagination.

Theory to account for the differing efficacy of the right and left halves of viewed scenes has been developed by Gaffron (5). Gaffron posited a process called the "Gaffron-Curve" to account for an empirically demonstrated asymmetry of perceptions in the right and left fields of viewed scenes. This curve describes two things in particular: 1. the observer orients himself in a particular position with reference to the scene or target viewed. The observer treats the scene he views as if he placed himself in a position so as to obliquely regard it from the left, and; 2. the observer, in effect, looks first into the foreground and progresses from there obliquely into the mid and background and then somewhat to the right. This portion or sequence of observing forms an inspection curve which does not stay within the plane of a two-dimensional picture but has to do with the interpretation of the scene as containing third dimensional properties.

It seems clear that, to the extent the Gaffron-Curve exists, it is a learned phenomena. Gaffron points out that her research was done on Western World subject (presumably who had learned to read from left to right). Also, it is reasonable to assume that visual and verbal sequencing experiences help in the development of the curve.

Proposition 6: Hierarchical potential in any pictoral scene or set of pictures is related to organism's history, sequencing ability and development of verbal literacy. Staats (17), in discussing verbal habit-families, [illegible] a case for an "anticipatory" response to a particular stimulus which then elicits a class of responses; for example, to the stimulus ball, most of us have a conditioned anticipatory response of roundness to which we then might associate round, circular, spherical, ball, and orange, to name a few. "Because of this experience, the sensory responses produced by the object or a class of similar objects will tend to elicit each of these specific responses in a divergent hierarchy of responses." ..."Thus, there could well be a hierarchy of stimulus situations with varying strengths for eliciting the anticipatory meaning response and thus the verbal habit family." (17)

It would seem possible to develop [illegible] concept, visual habit families, wherein visual literacy development might be indicated by the presence or lack of an "anticipatory" response to a particular visual stimulus and, [illegible] to what members

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of the pictoral family it relates.

Proposition 7: The development of the ability to engage in visual-metaphoric communications and activities is related to the development of verbal literacy. "The structure and function of man's symbols might be seen as a vehicle to provide him with significant and viable metaphors for living. Language, therefore is not an attempt to represent objects and events and then to think with them...describe and express an idea... It is also probable that the action of communication through written words or spoken sounds helps make the ideas or thoughts additionally real since such acts are seen or heard by our own visual and auditory perceptual apparatus. Speech and writing then become economical and available energy outlets for the communication of thoughts. Most educational experiences are aimed at learning to think through associative processes--connecting symbolic thoughts with other data within the same conceptual or metaphorical boundaries. Occasionally one is injected into formal or informal learning experiences which provide skills in connecting symbols across conceptual boundaries. This kind of bisociative thinking permits the learner to perceive data within more mobile and expanded conceptual boundaries. When new frames of reference can be mobilized from which to view old problems, objects and events can be seen as they have not been seen before. The essence of discovery lies in this learned skill..." (2).

A visual form which seems to have [illegible] for demonstrating some of what Bower and Hollister [illegible] about is called "Concrete Poetry." Ian Hamilton [illegible] visualizes the object of his desire by comparing her to [illegible] poet of an earlier era might have compared her to a flower. Finlay's lovely poem," according to Ronald Gross (10),"has a visual dimension: It is made not just to be read (for the things, thoughts, and feelings the words refer to)--it is to be [illegible] while it lacks the rhythmic sound of verse, its sensous [illegible] is an integral part of this bitter-sweet lyric."

It could be assumed that there is a [illegible] of the verbal abilities of a poet, author, or skilled [illegible] How can visual analogies, similies, rhymes, jokes, [illegible] meaningful messages be made clear? What role would they play in the development of visual and verbal literacy?

Proposition 8: There exists a range of visual literacy sophistication and this range is related to [illegible] opportunities. These characteristics of the visually [illegible] ted are not arranged in any order. All that can be said at this point is if an individual is visually sophisticated, [illegible] have a number of these characteristics.

. Illusions perceived readily

There is an excellent review of developmental psychology by Flavell and Hill in which they include a discussion of how illusions change, either increase or decrease, for example, with age. The Poggendorff illusion is among the decrease-with-age majority in this respect; so is the Muller-Lyer under normal visual presentation, but no age changes are found when it is presented tactually (12).

- Glance-Curve developed
- Good depth judgment
- Appreciates perspective
- Adjusts to new perceptual reality faster
- Picks picture substitutes for words or verbal utterances
- Leaves words out of visuals
- Denies visual sense modality when information is not suitable, e.g., wrong end of binoculars
- Sequences visual materials
- Judges appropriate level of visual abstractness for communication of specific intent
- Good figure - ground perceptions and reversals
- Uses visual metaphors (verbal phrases with high visual connotation loadings and reverse, e.g., "The sweep of the gusty wind over the desert.")
- Recognizes objects in left visual field sooner (Forgays)
- Processes a number of pictures into a story
- Plans picture story sequences
- Identifies stimuli (visual and auditory) when masked by "noise"

Proposition 9: The ability to transfer back and forth between visual-visual metaphors, verbal-visual, visual-verbal, and verbal-verbal metaphors is related to visual and verbal literacy development. In the discussion on Proposition seven a point was offered about the necessity to view old problems in new ways in new frames of reference. This was said to be a way to see objects and events as they have not been seen before. Also it seems as important for a student to learn the skills and pathways of getting from one metaphor to another as knowing all there is to

know about a single metaphor. "The richness and varieties of knowledge are often found in transmetaphorical experiences" (2).

Wagner's Tristan and Isolde is enhanced by the combination of themes for the characters in the opera with a wonderful interweaving of these themes as the characters develop and interact, both musically and verbally. Much of the same thing is realized when one tries to build models -- for example, mathematical models of behavior which can provide additional insight into behavior and perhaps into math. The same thing occurs when one tries to Venn diagram relationships. For example, cross breaks and partitions in the design of research problems can give additional insight into the kinds of variables to be examined. These are some of the kinds of transmetaphoric experiences being suggested. Charles Osgood (13) suggests: "It is because such diverse sensory experiences as a white circle (rather than black), a straight line (rather than crooked), a rising melody (rather than a falling one), a sweet taste (rather than a sour one), a caressing touch (rather than an irritating scratch) -- it is because all these diverse experiences can share a common affective meaning that one easily and lawfully translates from one sensory modality into another in synesthesia and metaphor... In other words, the common market of meaning seems to be based firmly in the biological system of emotional and purposive behavior that all humans share."

William J. J. Gordon (9) puts it another way: "To make the familiar strange is to distort, invert, or transpose the traditional ways of looking at and responding to the secure and familiar world... The child who bends and peers at the world from between his legs is experimenting with the familiar made strange."

SOME PROBLEMS AND QUESTIONS

A set of characteristics of the visually sophisticated has been posited and is said to be related to visual literacy in some way. This brings up, of course, the related and more important problem of how we can become visually sophisticated.

Often we find it easier or more satisfying to substitute the symbol for its reality without knowing either one well. One piece of speculative evidence of visual naivete can be drawn from an anecdote by Bower (2) which goes as follows: "We are like the proud parent who while wheeling her newborn baby in the park was stopped by an admiring friend. 'My, what a pretty baby,' said the friend. 'That's nothing,' said the mother, 'You should see his picture'."

To what extent does having learned a symbol in one way restrict other modes of interpretation? Does too great a concentration of the consensual validation of symbols in the early school years freeze the symbols and reduce their conceptual and behavioral alternatives? Some behavioral scientists and educators have

commented on the loss of creativity and joie de vivre in school children. Are these things related?

These things create a kind of paradox for us because we need, at the same time, to enchance the symbolic world of the child by increasing the possibilities of other meanings for "X."

This leads me to conclude with an anonymous poem found in "BELIEVE IT OR NOT" which Ripley published in the Chicago Tribune in 1939 entitled "X."

X is the Roman notation for ten;

X is the mark of an illiterate man;

X is the ruler removed from the throne;

X is the quantity wholly unknown;

X may mean Xenon, a furious gas;

X is a ray of similar class;

X-mas is Christmas, a season of bliss;

X in a letter is good for a kiss;

X is for Xerxes, a monarch renown, and

X marks the spot where the body was found.

LIST OF REFERENCES

1. Aldrich, Vernon, "Visual Metaphor," Journal of Aesthetic Education, II, 1, January, 1968.

2. Bower, Eli M., and Hollister, William G., Behavioral Science Frontiers in Education, New York: Wiley, 1967.

3. Dodd, John M., and Barabasz, Arreed F., "A Cross-Cultural Comparison of Inversion Perception at Three Age Levels," Journal of Educational Research, LXII, 1, September, 1968, 34-36.

4. Fuller, John L., "Experiential Deprivation and Later Behavior," Science, CLVIII, December, 1967, 1645-1652.

5. Gaffron, Mercedes, "Right and Left in Pictures," The Art Quarterly, XIII, 4, Autumn, 1950.

6. Geber, Marcelle, "The Psycho-motor development of African Children in the first year and the influence of maternal behavior," Journal of Social Psychology, XXXXVII, 1958, 185-195.

7. Gibson, Eleanor J., and Walk, R.D., "The Effect of Prolonged Exposure to Visually Presented Patterns on Learning to Discriminate Them," Journal of Comparative Physiological Psychology, XXXXIX, 1956.

8. Glaus, Marlene, From Thoughts to Words, Champaigne, Illinois: National Council of Teachers of English, 1965.

9. Gordon, William J., "The Metaphorical Way of Knowing," in Gyorgy Kepes (Ed.), Education of Vision, New York: George Braziller Inc., 1965.

10. Gross, Ronald, "To be Read and Seen," The New York Times Book Review, February 25, 1968.

11. Hebb, D.O., The Organization of Behavior, New York: Wiley, 1949.

12. Mussen, Paul H., and Rosenzweig, Mark R., eds., "Review of Developmental Psychology," Annual Review of Psychology, XX, Annual Reviews, Inc., Palo Alto, California, 1069.

13. Osgood, Charles E., "An Exploration into Semantic Space," in Wilbur Schramm (Ed.), The Science of Human Communications, New York: Basic Books, 1963.

14. Provence, Sally, and Lipton, Rose C., Infants in Institutions, New York: International Universities Press, 1963, p. 28f.

15. Raven, Ronald and Strubing, Herbert, "The effect of Visual Perceptual Units on Achievement in a Science Unit: Aptitudinal and Substantive Transfer in Second Grade Children," American Educational Research Journal, V, 3, May, 1968, 333-342.

16. Soares, Anthony T., and Soares, Louise M., "Self-Perceptions of Culturally Deprived Children," American Educational Research Journal, VI, 1, January, 1969, p.28f.

17. Staats, Arthur W., Learning, Languages, and Cognition, New York: Holt, Rinehart, and Winston, 1968.

18. Strandberg, Twila E., and Griffith, Jerry, "A Study of the Effects of Training in Visual Literacy on Verbal Language Behavior," Charleston, Illinois, Eastern Illinois University, Lithograph, July, 1968.

19. Vernon, M.D., The Psychology of Perception, Baltimore: Penquin Books, Inc., 1962, 208.

APPENDIX E

A HIERARCHY OF VISUAL SKILLS

Distinguish light from dark

Recognize differences in brightness

Recognize differences and similarities in shape

Recognize differences and similarities in size

Distinguish hues from greys

Recognize differences and similarities in hue

Recognize differences and similarities in saturation

Perceive distance, height, and depth

Recognize differences and similarities in distance, height, and depth

Perceive movement

Recognize differences and similarities in rates of movement

Recognize a whole shape even when partially occluded

"Read" simple body language and make simple body language utterances

Recognize groups of objects commonly seen together

"Read" a spatial arrangement of objects commonly seen together

Group objects related by process commonly seen together

Group objects related by process though not nevessarily seen together

"Read" a sequence of objects and/or body language arranged in chronological order and related by process

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged in cogent order

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged in "original" yet "significant" order

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged in order so as to communicate an intended idea about a process

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged to communicate intended nonphysical concepts

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged to

transmit a fictional narrative

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged to create a desired emotional reaction

Compose an utterance as above

"Read" a sequence of objects and/or body language arranged to express, so that others may understand it, a personal emotion

Compose an utterance as above

What you see here is a hierarchy of visual skills. It is my crude attempt to hypothesize on the basis of theory and current knowledge what a reasonable course of development might be.

If visual literacy exists, what would the characteristics be of a visually literate person? Drawing on the verbal parallel, I think it would be reasonable to say that the following would be desirable attributes and skills:

Read visuals with skill

Write with visuals, expressing oneself effectively

Know the grammar and syntaxes of visual language and be able to apply them

Be familiar with the tools of visual literacy and their use

Appreciate the masterworks of visual literacy

Be able to translate from visual language to verbal language and vice versa

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EXPLANATION OF STATISTICAL INFORMATION

A. Dailey Language Facility Inventory

The Dailey Language Facility Inventory, an oral language facility inventory, was administered as a post test utilizing a program which analyzed variance. Two three-way analyses of variance were conducted in order to examine score results. The analysis was conducted by categorizing the subjects in terms of experimental and control groups, Negro-Causcasian race, and migrant or resident (stagrant) status. A second analysis was performed maintaining two categories (experimental-control, migrant-stagrant), in addition to race.

B. Wide-Range Achievement Test (W.R.A.T.)

An analysis of covariance procedures was employed to examine the same independent variables cited in the Dailey Language Facility raw scores. Because of the extreme differences in cell sizes in the sample (N-100), the results should be interpreted as suggestive of serious further inquiry. When there were significant differences in results it appeared to be due to grade level and specific visual literacy treatment, as opposed to status (Migrant or Stagrant) or race.

The results of the Sodus project were most encouraging and strongly suggest that visual literacy training strategies do contribute significantly to oral language development and to the extension of verbal skills measured on the W.R.A.T.

R.B.Fransecky

"Visual Literacy and Migrant Youth"
New York State Center for Migrant Studies
Sodus, New York, Summer 1969

Project Director: Roger B. Fransecky, Director
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Table I
Wide-Range Achievement Test Scores (WRAT)

Mean Scores for Group on Pre and Post WRAT Instruments

Experimental Classes			Control Classes		
Grade	Pre	Post	Grade	Pre	Post
1	20.8 (.10)	23.0 (.0)	1	24.6 (11.6)	26.8 (11.4)
1	28.5 (12.4)	28.5 (13.0)	1	32.0 (5.65)	34.0 (6.0)
2	26.4 (.8)	28.0 (18.0)	2	25.0 (7.9)	26.3 (6.2)
2	34.6 (.14)	36.0 (13.1)	2	30.8 (11.9)	32.0 (13.)
3	46.4 (10.3)	51.0 (8.0)	3	41.0 (.9)	41.3 (9.0)
3	36.7 (9.0)	42.0 (10.2)	3	46.0 (7.3)	46.5 (7.0)

NOTE: Standard deviations appear in parenthesis.

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Table II
Mean Scores for Groups on Dailey Language Facility Inventory

A Post Test Inventory of Oral Lang. Facility			
Grade	Experimental Classes	Grade	Control Classes
1	6.2 (.4)	1	6.5 (1.9)
1	6.5 (1.2)	1	9.0 (0)
2	7.6 (1.2)	2	5.6 (1.7)
2	7.3 (1.9)	2	5.0 (.6)
3	6.7 (2.2)	3	6.1 (2.0)
3	7.2 (1.9)	3	6.0 (0)

NOTE: Standard deviations appear in parenthesis.